

Amendments to the Claims:

Claims

1. (Original) A method of analysing a heart beat signal which comprises a series of heart beat complexes, the method comprising the steps of:
selecting a set of said complexes;
identifying from the set a subset of complexes each of which satisfy a similarity criterion with respect to members of the set;
calculating a representative complex from the members of the subset; and
establishing one or more heart beat signal parameters from said representative complex.
2. (Original) The method of claim 1 wherein said step of identifying comprises identifying from the set a subset of complexes each of which satisfy a similarity criterion with respect to an average of the members of the set.
3. (Original) The method of claim 2 wherein said similarity criterion comprises a threshold calculated using the complexes of said set and an average of the members of the set.
4. (Original) The method of claim 3 wherein said similarity criterion further comprises a predefined threshold value.
5. (Currently Amended) The method of ~~any preceding~~ claim 1 wherein said step of calculating a representative complex is a step of calculating an average complex of the members of the subset.
6. (Currently Amended) The method of ~~any preceding~~ claim 1 further comprising a step of analysing said heart beat signal to identify and select genuine heart beat complexes to form said series.

7. (Currently Amended) The method of ~~any preceding~~ claim 1 wherein said step of identifying comprises:
aligning the complexes of said set;
forming a set-average complex from said aligned complexes;
comparing each complex of said set to said set-average complex;
determining if each result of comparing satisfies said similarity criterion; and
forming said subset from only those complexes of said set for which the similarity criterion is satisfied.
8. (Original) The method of claim 7 wherein said step of comparing comprises correlating each complex of said set with said set-average complex, and comparing each resulting correlation coefficient with a threshold value.
9. (Currently Amended) The method of claim 7 ~~or 8~~ wherein said signal is an electrocardiogram signal and wherein said step of aligning the complexes of said set comprises the step of aligning said complexes on an R-top feature of each complex.
10. (Currently Amended) The method of ~~any of~~ claims ~~1 to 8~~ wherein said heart beat signal is an electrocardiogram signal.
11. (Currently Amended) Computer apparatus adapted to carry out the method steps of ~~any of~~ claims ~~1 to 10~~.
12. (Currently Amended) A computer readable medium carrying a computer program product comprising elements adapted to carry out the method steps of ~~any of~~ claims ~~1 to 10~~.
13. (Original) Apparatus for analysing a heart beat signal which comprises a series of heart beat complexes, comprising:
an extract set element (44) adapted to select a set of complexes from said series;
a select subset element (46, 48, 50) adapted to identify from the set a subset of complexes each of which satisfy a similarity criterion with respect o members of the set; and

a combiner element (52) adapted to calculate a representative complex from the members of the subset.

14. (Original) The apparatus of claim 13 further comprising an analysis element (54) adapted to establish one or more heart beat signal parameters from said representative complex.
15. (Currently Amended) The apparatus of claim 13 ~~or 14~~ wherein the select subset element comprises:
an align set element (46) adapted to align the complexes of said set; and
a calculate criterion element (48) adapted to establish said similarity criterion from the aligned complexes.
16. (Original) The apparatus of claim 15 wherein the calculate criterion element (48) establishes said similarity criterion as a threshold calculated using the complexes of said set and an average of the members of the set.
17. (Currently Amended) The apparatus of ~~any of claims 13 to 16~~ further comprising a preprocess element (42) adapted to identify and select genuine heart beat complexes to form said series.
18. (Original) Apparatus for analysing a heart beat signal comprising a plurality of heart beat complexes, the apparatus comprising:
an analysis engine adapted to automatically calculate a representative heart beat complex for each of a plurality of preselected intervals of said signal; and
an editor adapted to enable a user to edit parameters relating to each automatically calculated representative heart beat complex.
19. (Original) The apparatus of claim 18 wherein each interval contains a set of heart beat complexes, the analysis engine is adapted to automatically decide which complexes in the set to include in each representative heart beat complex, and the editor is adapted to enable the user to subsequently change which complexes are included.

20. (Original) The apparatus of claim 19 wherein the editor is adapted to enable the user to select whether a particular complex should be included, not included, or included subject to a similarity criterion, in the corresponding representative heart beat complex.
21. (Currently Amended) The apparatus of ~~any of claims 18 to 20~~ wherein the representative complex is an average of the included complexes.
22. (Currently Amended) The apparatus of ~~any of claims 18 to 21~~ wherein the editor is further adapted to provide the user with a graphical display of at least some of the heart beat complexes within a current one of the intervals of said signal and with a graphical display of the current representative heart beat complex for the interval.
23. (Original) The apparatus of claim 22 wherein the editor is further adapted to display, on the display of the current representative heart beat complex, one or more feature markers indicating the automatically determined locations of one or more features of said representative heart beat complex.
24. (Original) The apparatus of claim 23 wherein the editor is further adapted to enable the user to move said markers.
25. (Currently Amended) The apparatus of ~~any of claims 18 to 24~~ wherein the analysis engine is further adapted to calculate one or more heart beat parameters of each representative heart beat complex, and said editor is adapted to display said heart beat parameters and to update said display according to changes made by said user.
26. (Currently Amended) A computer readable medium comprising a computer program product arranged to provide the apparatus of ~~any of claims 18 to 25~~ when executed on a suitable computer system.